

We claim:

1. A call-waiting apparatus, comprising:

a line connector for connection to an incoming telephone line, a phone  
connector for connection to a telephone handset, and a modem/fax connector for  
5 connection to a computer modem or fax machine;

a controller coupled to the line connector, phone connector, and the  
modem/fax connector, the controller including an automatic mode in which upon  
detecting a call-waiting signal from an incoming communication the controller  
automatically causes a connection between the line connector and the modem/fax  
10 connector to be changed to a connection between the line connector and the phone  
connector.

2. The apparatus of claim 1, wherein the controller further includes a manual  
mode in which upon detecting a call-waiting signal from an incoming communication, the  
15 controller actuates one or more alarms indicating an incoming communication, the manual  
mode allowing a user to take the communication, causing a connection between the line  
connector and the modem/fax connector to be changed to a connection between the line  
connector and the phone connector, or not take the communication wherein the  
connection between the line connector and the modem/fax connector is maintained.

3. The apparatus of claim 2, wherein the housing includes a switch for  
switching between the manual mode and the automatic mode.

4. The apparatus of claim 1, wherein the controller includes a reset timer that prevents a re-connection of the connection between the line connector and the modem/fax connector for at least twenty seconds once the connection between the line connector and the modem/fax connector is changed to a connection between the line connector and the phone connector .

5. The apparatus of claim 1, wherein the controller includes one or more integrated circuits.

6. The apparatus of claim 4, wherein the one or more integrated circuits includes one or more low power-consumption, CMOS-type integrated circuits.

7. The apparatus of claim 1, wherein the connectors are jacks, and the apparatus further includes a case for housing said controller and jacks.

8. The apparatus of claim 1, wherein the controller and connectors are part of a circuit board.

9. The apparatus of claim 1, wherein the controller includes a tone decoder with a center frequency of 440 Hz +/- 50 Hz, and a response time of approximately 10 ms.

10. The apparatus of claim 1, wherein the power-consumption of the apparatus is 15ma or less.

5 11. The apparatus of claim 1, wherein the apparatus is powered by one or more batteries.

12. The apparatus of claim 1, wherein the apparatus is powered by power from the incoming telephone line.

10 13. The apparatus of claim 1, wherein the line connector and the modem/fax connector are always connected and the controller causes the connection between the line connector and the modem/fax connector to be superseded by a connection between the line connector and the phone connector upon detecting a call-waiting signal from an  
15 incoming communication.

14. A call-waiting apparatus, comprising:  
a line connector for connection to an incoming telephone line, a phone connector for connection to a telephone handset, and a modem/fax connector for  
20 connection to a computer modem or fax machine;

a controller coupled to the line connector, phone connector, and the modem/fax connector, the controller including one or more low power-consumption,

integrated circuits, the controller including a mode in which upon detecting a call-waiting signal from an incoming communication, the controller actuates one or more alarms indicating an incoming communication, the mode allowing a user to take the communication, causing a connection between the line connector and the modem/fax connector to be changed to a connection between the line connector and the phone connector, or not take the communication wherein the connection between the line connector and the modem/fax connector is maintained.

15. The apparatus of claim 14, wherein the controller includes a reset timer that prevents a re-connection of the connection between the line connector and the modem/fax connector for at least twenty seconds once the connection between the line connector and the modem/fax connector is changed to a connection between the line connector and the phone connector .

16. The apparatus of claim 14, wherein the connectors are jacks, and the apparatus further includes a case for housing said controller and jacks.

17. The apparatus of claim 14, wherein the controller and connectors are part of a circuit board.

18. The apparatus of claim 14, wherein the controller includes a tone decoder with a center frequency of 440 Hz +/- 50 Hz, and a response time of approximately 10 ms.

5 19. The apparatus of claim 14, wherein the power-consumption of the apparatus is 15 ma less.

20. The apparatus of claim 14, wherein the apparatus is powered by one or more batteries.

10 21. The apparatus of claim 14, wherein the apparatus is powered by power from the incoming telephone line.

15 22. A method of alerting a user on a telephone line or others nearby of an incoming communication on the same telephone line, comprising:

providing a call-waiting apparatus including a line connector for connection to an incoming telephone line, a phone connector for connection to a telephone handset, and a modem/fax connector for connection to a computer modem or fax machine, and a controller coupled to the line connector, phone connector, and the modem/fax connector, the controller for controlling connection between either the line connector and phone connector or the line connector and modem/fax connector;

detecting a call-waiting signal from an incoming communication;

automatically causing a connection between the line connector and the modem/fax connector to be changed to a connection between the line connector and the phone connector.

5           23.    The method of claim 22, wherein the call-waiting apparatus includes an automatic mode in which the above method automatically occurs upon detecting a call-waiting signal from an incoming communication and a connection exists between the line connector and the modem/fax connector.

10           24.    The method of claim 22, wherein the call-waiting apparatus further includes a manual mode, the method further including selecting the manual mode, upon detecting a call-waiting signal from an incoming communication, actuating one or more alarms indicating an incoming communication, and further allowing a user to take the communication, causing a connection between the line connector and the modem/fax connector to be changed to a connection between the line connector and the phone connector, or not take the communication wherein the connection between the line connector and the modem/fax connector is maintained.

15           25.    The method of claim 22, further including preventing a re-connection of the connection between the line connector and the modem/fax connector for at least twenty seconds once the connection between the line connector and the modem/fax connector is changed to a connection between the line connector and the phone connector.

26. The method of claim 22, wherein the controller includes one or more low power-consumption, CMOS-type integrated circuits.

5 27. The method of claim 22, wherein the connectors are jacks, and the apparatus further includes a case for housing said controller and jacks.

28. The method of claim 22, wherein the controller and connectors are part of a circuit board.

10 29. The method of claim 22, wherein the controller includes a tone decoder with a center frequency of 440 Hz +/- 50 Hz, and a response time of approximately 10 ms.

15 30. The method of claim 22, wherein the power-consumption of the apparatus is 15 ma or less.

31. The method of claim 22, further including powering the apparatus with one or more batteries.

20 32. The method of claim 21, further including powering the apparatus by power from the incoming telephone line.

